RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number:

Source:

Date Processed by STIC:

ENTERED



IFW16

RAW SEQUENCE LISTING DATE: 06/02/2005 PATENT APPLICATION: US/10/659,782B TIME: 09:00:27

Input Set: A:\28238 sequence listing v2.txt Output Set: N:\CRF4\06022005\J659782B.raw

3 <110> APPLICANT: Mintz, Liat 5 <120> TITLE OF INVENTION: Compositions, Reagents and Kits for and Methods of Diagnosing, (Pg.6) Monitoring and Treating Obesity and/or Diabetes 6 8 <130> FILE REFERENCE: 28238 C--> 10 <140> CURRENT APPLICATION NUMBER: US/10/659,782B 11 <141> CURRENT FILING DATE: 2003-09-11 13 <160> NUMBER OF SEQ ID NOS: 42 15 <170> SOFTWARE: PatentIn version 3.3 17 <210> SEO ID NO: 1 18 <211> LENGTH: 4517 19 <212> TYPE: DNA 20 <213> ORGANISM: Homo sapiens 22 <400> SEQUENCE: 1 23 ctgattccat accagagggg ctcaggatgc tgttgctggg agctgttcta ctgctattag 60 25 ctctgcccgg gcatgaccag gaaaccacga ctcaagggcc cggagtcctg cttcccctgc 120 27 ccaagggggc ctgcacaggt tggatggcgg gcatcccagg gcatccgggc cataatgggg 180 29 ccccaggccg tgatggcaga gatggcaccc ctggtgagaa gggtgagaaa ggagatccag 240 300 31 gtcttattgg tcctaaggga gacatcggtg aaaccggagt acccggggct gaaggtcccc 33 gaggetttee gggaateeaa ggeaggaaag gagaacetgg agaaggtgee tatgtatace 360 35 geteageatt cagtgtggga ttggagaett aegttaetat eeccaacatg eecatteget 420 37 ttaccaagat cttctacaat cagcaaaacc actatgatgg ctccactggt aaattccact 480 39 gcaacattcc tgggctgtac tactttgcct accacatcac agtctatatg aaggatgtga 540 600 41 aggtcagcct cttcaagaag gacaaggcta tgctcttcac ctatgatcag taccaggaaa 43 ataatgtgga ccaggeetee ggetetgtge teetgeatet ggaggtggge gaccaagtet 660 720 45 ggctccaggt gtatggggaa ggagagcgta atggactcta tgctgataat gacaatgact 780 47 ccaccttcac aggetttett etetaceatg acaccaactg atcaccacta acteagagee 49 tectecagge caaacageee caaagteaat taaaggettt cagtaeggtt aggaagttga 840 51 ttattattta gttggaggcc tttagatatt attcattcat ttactcattc atttattcat 900 53 tcattcatca agtaacttta aaaaaatcat atgctatgtt cccagtcctg gggagcttca 960 55 caaacatgac cagataactg actagaaaga agtagttgac agtgctattt tgtgcccact 1020 57 gtctctcctg atgctcatat caatcctata aggcacaggg aacaagcatt ctcctgtttt 1080 59 tacagattgt atcctgaggc tgagagagtt aagtgaatgt ctaaggtcac acagtattaa 1140 61 gtgacagtgc tagaaatcaa acccagagct gtggactttg ttcactagac tgtgcccttt 1200 63 tatagaggta catgttctct ttggagtgtt ggtaggtgtc tgtttcccac ctcacctgag 1260 65 agccattgaa tttgccttcc tcatgaatta aaacctcccc caagcagagc ttcctcagag 1320 67 aaagtggtte tatgatgaag teetgtettg gaaggaetae taeteaatgg eecetgeaet 1380 69 actetactte etettaceta tgtecettet catgeettte cetecaaegg ggaaageeaa 1440 1500 71 ctccatctct aagtgctgaa ctcatccctg ttcctcaagg ccacctggcc aggagcttct 73 ctgatgtgat atccactttt ttttttttt gagatggagt ctcactctgt cacccaggct 1560 75 ggagtacagt gacacgacct cggctcactg cagcctcctt ctcctgggtc caagcaatta 1620 77 ttgtgcctca gcctcccgag tagctgagac ttcaggtgca ttccaccaca catggctaat 1680 79 ttttgtattt ttagtagaaa tggggtttcg tcatgttggc caggctggtc tcgaactcct 1740

81 ggcctaggtg atccacccgc ctcgacctcc caaaqtgctg ggattacagg catgagccac

1800

RAW SEQUENCE LISTINGPATENT APPLICATION: **US/10/659,782B**DATE: 06/02/2005
TIME: 09:00:27

```
83 catgcccagt cgatatctca ctttttattt tgccatggat gagagtcctg ggtgtgagga
                                                                      1860
                                                                      1920
85 acacetecca ecaggetaga ggeaactgee caggaaggae tgtgetteeg teacetetaa
87 atcccttgca gatccttgat aaatgcctca tgaagaccaa tctcttgaat cccatatcta
                                                                      1980
89 cccagaatta actccattcc agtctctgca tgtaatcagt tttatccaca gaaacatttt
                                                                      2040
91 cattttagga aatccctggt ttaagtatca atccttgttc agctggacaa tatgaatctt
                                                                      2100
93 ttccactgaa gttagggatg actgtgattt tcagaacacg tccagaattt ttcatcaaga
                                                                      2160
95 aggtagettg agcetgaaat geaaaaceca tggaggaatt etgaageeat tgteteettg
                                                                      2220
97 agtaccaaca gggtcaggga agactgggcc tcctgaattt attattgttc tttaagaatt
                                                                      2280
99 acaggttgag gtagttgatg gtggtaaaca ttctctcagg agacaataac tccagtgatg
                                                                      2340
101 tttttcaaaq attttaqcaa aaacaqaqta aataqcattc tctatcaata tataaattta
                                                                       2400
103 aaaaactatc tttttgctta cagttttaaa ttctgaacaa tttctcttat atgtgtattg
                                                                       2460
105 ctaatcatta aggtattatt ttttccacat ataaagcttt gtctttttgt tgttgtt
                                                                       2520
107 gtttttaaga tggagtttcc ctctgttgcc aggctagagt gcagtggcat gatctcgqct
                                                                       2580
109 tactgcaacc tttgcctccc aggtttaagc gattcttctg cctcagcctc ccgagtagct
                                                                       2640
111 gggaccacag gtgcctacca ccatgccagg ctaatttttg tatttttagt aaagacaggg
                                                                       2700
113 tttcaccata ttggccaggc tggtctcgaa ctcctgacct tgtgatctgc ccgcctccat
                                                                       2760
115 tgtgttgtta tttgtgagaa agatagatat qaqqtttaga qaqqqatqaa qaqqtgaqaq
                                                                       2820
117 taagcettgt gttagtcaga actetgtgtt gtgaatgtca tteacaacag aaaacccaaa
                                                                       2880
119 atattatgca aactactgta agcaagaaaa ataaaggaaa aatggaaaca tttattcctt
                                                                       2940
121 tgcataatag aaattaccag agttgttctg tctttagata aggtttgaac caaagctcaa
                                                                       3000
123 aacaatcaag accettttet gtatgteett etgttetgee tteegeagtg taggetttae
                                                                       3060
125 cctcaggtgc tacacagtat agttctaggg tttccctccc gatatcaaaa agactgtggc
                                                                       3120
127 ctgcccagct ctcgtatccc caagccacac catctggcta aatggacatc atgttttctg
                                                                       3180
129 gtgatgccca aagaggagag aggaagctct ctttcccaga tgccccagca agtgtaacct
                                                                       3240
131 tgcatctcat tgctctggct gagttgtgtg cctgtttctg accaatcact gagtcaggag
                                                                       3300
133 gatgaaatat tcatattgac ttaattgcag cttaagttag gggtatgtag aggtattttc
                                                                       3360
135 cctaaagcaa aattgggaca ctgttatcag aaataggaga gtggatgata gatgcaaaat
                                                                       3420
137 aatacctgtc cacaacaaac tettaatgct gtgtttgagc tttcatgagt ttcccagaga
                                                                       3480
139 gacatagctg gaaaattcct attgattttc tctaaaattt caacaagtag ctaaagtctg
                                                                       3540
141 gctatgctca cagtctcaca tctggtgggg gtgggctcct tacagaacac gctttcacag
                                                                       3600
143 ttaccctaaa ctctctgggg cagggttatt cctttgtgga accagaggca cagagacagt
                                                                       3660
                                                                       3720
145 caactgaggc ccaacagagg cctgagagaa actgaggtca agatttcagg attaatggtc
147 ctgtgatgct ttgaagtaca attgtggatt tgtccaattc tctttagttc tgtcagcttt
                                                                       3780
149 tgcttcatat attttagcgc tctattatta gatatataca tgtttagtat tatgtcttat
                                                                       3840
151 tggtgcattt actctcttat cattatgtaa tgtccttctt tatctgtgat aattttctgt
                                                                       3900
153 gttctgaagt ctactttgtc taaaaataac atacgcactc aacttccttt tctttctcc
                                                                       3960
4020
157 ttetetetet etetetet etetetttte ttgacagaet etegttetgt ggeeetgget
                                                                       4080
159 ggagttcagt ggtgtgatct tggctcactg ctacctctac catgagcaat tctcctgcct
                                                                       4140
161 cagectecca agtagetgga actacagget catgecactg egeceageta attittgtat
                                                                       4200
163 ttttcgtaga gacggggttt caccacattc gtcaggttgg tttcaaactc ctgactttgt
                                                                       4260
165 gatecaceeg ceteggeete ceaaagtget gggattacag geatgageea teacacetgg
                                                                       4320
167 tcaactttct tttgattagt gtttttgtgg tatatctttt tccatcatgt tactttaaat
                                                                       4380
169 atatctatat tattgtattt aaaatgtgtt tcttacagac tgcatgtagt tgggtataat
                                                                       4440
171 ttttatccag tctaaaaata tctgtctttt aattggtgtt tagacaattt atatttaata.
                                                                       4500
173 aaatggtgga atttaaa
                                                                       4517
176 <210> SEO ID NO: 2
```

RAW SEQUENCE LISTING DATE: 06/02/2005 PATENT APPLICATION: US/10/659,782B TIME: 09:00:27

179	<213> ORGANISM: Homo s	sapiens				
181	<400> SEQUENCE: 2					
182	atgacccggg gctgaaggtc	cccgaggctt	tccgggaatc	caaqqcaqqa	aaqqaqaacc	60
	tggagaaggt gcctatgtat					120
	tatccccaac atgcccattc					180
	tggctccact ggtaaattcc					240
	cacagtctat atgaaggatg					300
			-		-	360
	cacctatgat cagtaccagg					
	tctggaggtg ggcgaccaag					420
	ctatgctgat aatgacaatg	actccacctt	cacaggettt	cttctctacc	atgacaccaa	480
	ctga					484
	<210> SEQ ID NO: 3					
	<211> LENGTH: 718					
	<212> TYPE: DNA					
	<213> ORGANISM: Homo s	sapiens				
206	<400> SEQUENCE: 3					
207	ctgattccat accagagggg	ctcaggatgc	tgttgctggg	agctgttcta	ctgctattag	60
	ctctgcccgg gcatgaccag					120
211	ccaaggggc ctgcacaggt	tggatggcgg	gcatcccagg	gcatccgggc	cataatgggg	180
	ccccaggccg tgatggcaga					240
	gtcttattgg tcctaaggga					300
	gaggetttee gggaateeaa					360
	caacatgccc attcgcttta					420
	cactggtaaa ttccactgca					480
	ctatatgaag gatgtgaagg					540
	tgatcagtac caggaaaata					600
	ggtgggcgac caagtctggc					660
	tgataatgac aatgactcca					718
	<210> SEQ ID NO: 4	ccccacagg	Cittettett	Laccatgaca	Ccaactga	/10
	<211> LENGTH: 537					
	<212> TYPE: DNA					
	<213> ORGANISM: Homo s	sapiens				• '
	<400> SEQUENCE: 4					
	ctgattccat accagagggg					60
	ctctgcccgg gcatgaccag					120
	ccaagggggc ctgcacaggt					180
	ccccaggccg tgatggcaga					240
246	gtcttattgg tcctaaggga	gacatcggtg	aaaccggagt	acccggggct	gaaggtcccc	300
248	gaggctttcc gggaatccaa	ggcaggaaag	gagaacctgg	agaaggtgcc	tatgtatacc	360
250	gctcagcatt cagtgtggga	ttggagactt	acgttactat	ccccaacatg	cccattcgct	420
252	ttaccaagat cttctacaat	cagcaaaacc	actatgatgg	ctccactggt	aaattccact	480
	gcaacattcc tgggctgtac					537
	<210> SEQ ID NO: 5	3.2		•	•	
258	<211> LENGTH: 1306		•			
	<212> TYPE: DNA					
	<213> ORGANISM: Mus mu	isculus				
	<400> SEQUENCE: 5					
	atgagacctg gccactttct	cctcatttct	atctatecae	ttatceataa	atctgacgac	60
	accaaaaggg ctcaggatgc					120
200	accauagyy cccayyatyc	caccyccyca	agetetetty	ccccccaa	coccyccay	120

RAW SEQUENCE LISTING DATE: 06/02/2005 PATENT APPLICATION: US/10/659,782B TIME: 09:00:27

```
267 tcatgccgaa gatgacgtta ctacaactga agagctagct cctgctttgg tccctccacc
                                                                        180
269 caagggaact tgtgcaggtt ggatggcagg catcccagga catcctggcc acaatggcac
                                                                        240
271 accaggccgt gatggcagag atggcactcc tggagagaaag ggagagaaag gagatgcagg
                                                                        300
273 tcttcttggt cctaagggtg agacaggaga tgttggaatg acaggagctg aagggccacg
                                                                        360
275 gggcttcccc ggaacccctg gcaggaaagg agagcctgga gaagccgctt atgtgtatcg
                                                                        420
277 ctcagcgttc agtqtggggc tggaqacccq cqtcactqtt cccaatqtac ccattcqctt
                                                                        480
279 tactaagatc ttctacaacc aacagaatca ttatgacggc agcactggca agttctactg
                                                                        540
281 caacatteeg ggactetaet aettetetta ceacateaeg gtgtacatga aagatgtgaa
                                                                        600
283 ggtgagcctc ttcaagaagg acaaggccgt tctcttcacc tacgaccagt atcaggaaaa
                                                                        660
285 gaatgtggac caggeetetg getetgtget cetecatetg gaggtgggag accaagtetg
                                                                        720
287 gctccaggtg tatggggatg gggaccacaa tggactctat gcagataacg tcaacgactc
                                                                        780
289 tacatttact ggctttcttc tctaccatga taccaactga ctgcaactac ccatagccca
                                                                        840
291 tacaccagga gaatcatgga acagtcgaca cactttcagc ttagtttgag agattgattt
                                                                        900
293 tattgcttag tttgagagtc ctgagtatta tccacacgtg tactcacttg ttcattaaac
                                                                        960
295 gactttataa aaaataattt gtgttcctag tccagaaaaa aaggcactcc ctggtctcca
                                                                       1020
297 cgactettae atggtageaa taacagaatg aaaateacat ttggtatggg ggetteacaa
                                                                       1080
299 tattcgcatg actgtctgga agtagaccat gctatttttc tgctcactgt acacaaatat
                                                                       1140
301 tqttcacata aaccctataa tgtaaatatg aaatacagtg attactcttc tcacaggctg
                                                                       1200
1260
305 aaaaaaaaa agaaaaactt tagagcacac tggcggccgt tactag
                                                                       1306
308 <210> SEQ ID NO: 6
309 <211> LENGTH: 1184
310 <212> TYPE: DNA
311 <213> ORGANISM: Mus musculus
313 <400> SEQUENCE: 6
314 gctcattcat cttttaattc acccataaag gctttgaaaa ctaaggctgg agatgaactt
                                                                         60
316 ataggageet gecaggeegt ggagagtgag gaaqeagaga tgaeggagat gatgtettte
                                                                        120
318 cttgtcctgt gaaatggatt gtgggtagag gttccggaga taatgcctct tgctggaaac
                                                                        180
320 agtctgggca gttctgttcc cgccattcac agaattcttc tcactttcta ggtcttcttq
                                                                        240
322 gtcctaaggg tgagacagga gatgttggaa tgacaggagc tgaagggcca cggggcttcc
                                                                        300
324 ccggaacccc tggcaggaaa ggagagcctg gagaagccgc ttatgtgtat cgctcagcgt
                                                                        360
326 tcagtgtggg gctggagacc cgcgtcactg ttcccaatgt acccattcgc tttactaaga
                                                                        420
328 tcttctacaa ccaacagaat cattatgacg gcagcactgg caagttctac tgcaacattc
                                                                        480
330 cgggactcta ctacttctct taccacatca cggtgtacat gaaagatgtg aaggtgagcc
                                                                        540
332 tetteaagaa ggacaaggee gttetettea eetaegaeea gtateaggaa aagaatgtgg
                                                                        600
334 accaggecte tggetetgtg etectecate tggaggtggg agaccaagte tggetecagg
                                                                        660
336 tqtatgggga tggggaccac aatggactct atgcagataa cgtcaacgac tctacattta
                                                                        720
338 ctggctttct tctctaccat gataccaact gactgcaact acccatagcc catacaccag
                                                                        780
340 gagaatcatg gaacagtcga cacactttca gcttagtttg agagattgat tttattgctt
                                                                        840
342 agtttgagag teetgagtat tatecaeaeg tgtaeteaet tgtteattaa aegaetttat
                                                                        900
344 aaaaaataat ttgtgttcct agtccagaaa aaaaggcact ccctggtctc cacgactctt
                                                                        960
346 acatggtagc aataacagaa tgaaaatcac atttggtatg ggggcttcac aatattcgca
                                                                       1020
348 tgactgtctg gaagtagacc atgctatttt tctgctcact gtacacaaat attgttcaca
                                                                       1080
350 taaaccetat aatgtaaata tgaaatacag tgattactet tetcacagge tgagtgtatg
                                                                       1140
352 aattctaaag acccataagt attaaagtgg tagggataaa ttgg
                                                                       1184
355 <210> SEQ ID NO: 7
356 <211> LENGTH: 1209
357 <212> TYPE: DNA
358 <213> ORGANISM: Mus musculus
```

RAW SEQUENCE LISTING DATE: 06/02/2005 PATENT APPLICATION: US/10/659,782B TIME: 09:00:27

360	<400> SEQUENCE: 7					
361	atgagacctg gccactttct	cctcatttct	gtctgtacga	ttgtcagtgg	atctgacgac	60
363	accaaaaggg ctcaggatgc	tactgttgca	agctctcctg	ttcctcttaa	tcctgcccag	120
365	tcatgccgaa gatgacgtta	ctacaactga	agagctagct	cctgctttgg	tccctccacc	180
367	caagggaact tgtgcaggtt	ggatggcagg	catcccagga	catcctggcc	acaatggcac	240
	accaggeegt gatggeagag					300
	tcttcttggt cctaagggtg					360
	gggcttcccc ggaacccctg					420
	aatgtaccca ttcgctttac					480
	actggcaagt tctactgcaa					540
	tacatgaaag atgtgaaggt					600
	gaccagtate aggaaaagaa					660
	gtgggagacc aagtctggct					720
	gataacgtca acgactctac					780
	caactaccca tagcccatac					840
	gtttgagaga ttgattttat					900
	tcacttgttc attaaacgac	-		-		960
	gcactccctg gtctccacga					1020
	gtatgggggc ttcacaatat					1080
	tcactgtaca caaatattgt					1140
	actettetea caggetgagt					1200
	ataaattgg	•	2	,	3 33 323	1209
	<210> SEQ ID NO: 8					
405	<211> LENGTH: 1028					
406	<212> TYPE: DNA					
	<213> ORGANISM: Mus mu	ısculus				
407	<213> ORGANISM: Mus mu <400> SEQUENCE: 8	ısculus				
407 409			gtctgtacga	ttgtcagtgg	atctgacgac	60
407 409 410	<400> SEQUENCE: 8	cctcatttct				60 120
407 409 410 412	<400> SEQUENCE: 8 atgagacctg gccactttct	cctcatttct tactgttgca	agctctcctg	ttcctcttaa	tcctgcccag	
407 409 410 412 414	<400> SEQUENCE: 8 atgagacctg gccactttct accaaaaggg ctcaggatgc	cctcatttct tactgttgca ctacaactga	agctctcctg agagctagct	ttcctcttaa cctgctttgg	tcctgcccag tccctccacc	120
407 409 410 412 414 416	<400> SEQUENCE: 8 atgagacctg gccactttct accaaaaggg ctcaggatgc tcatgccgaa gatgacgtta	cctcatttct tactgttgca ctacaactga ggatggcagg	agctctcctg agagctagct catcccagga	ttcctcttaa cctgctttgg catcctggcc	tcctgcccag tccctccacc acaatggcac	120 180
407 409 410 412 414 416 418	<400> SEQUENCE: 8 atgagacctg gccacttct accaaaaggg ctcaggatgc tcatgccgaa gatgacgtta caagggaact tgtgcaggtt	cctcatttct tactgttgca ctacaactga ggatggcagg atggcactcc	agctctcctg agagctagct catcccagga tggagagaag	ttcctcttaa cctgctttgg catcctggcc ggagagaaag	tcctgcccag tccctccacc acaatggcac gagatgcagg	120 180 240
407 409 410 412 414 416 418 420	<400> SEQUENCE: 8 atgagacctg gccacttct accaaaaggg ctcaggatgc tcatgccgaa gatgacgtta caagggaact tgtgcaggtt accaggccgt gatggcagag	cctcatttct tactgttgca ctacaactga ggatggcagg atggcactcc agacaggaga	agetetectg agagetaget cateceagga tggagagaag tgttggaatg	ttcctcttaa cctgctttgg catcctggcc ggagagaaag acaggagctg	tectgeecag tecetecace acaatggeac gagatgeagg aagggeeacg	120 180 240 300
407 409 410 412 414 416 418 420 422	<pre><400> SEQUENCE: 8 atgagacctg gccactttct accaaaaggg ctcaggatgc tcatgccgaa gatgacgtta caagggaact tgtgcaggtt accaggccgt gatggcagag tcttcttggt cctaagggtg</pre>	cctcatttct tactgttgca ctacaactga ggatggcagg atggcactcc agacaggaga gcaggaaagg	agetetectg agagetaget cateceagga tggagagaag tgttggaatg agageetgga	ttcctcttaa cctgctttgg catcctggcc ggagagaaag acaggagctg gaagccgctt	tcctgccag tccctcacc acaatggcac gagatgcagg aagggccacg atgtgtatcg	120 180 240 300 360
407 409 410 412 414 416 418 420 422 424	<pre><400> SEQUENCE: 8 atgagacctg gccactttct accaaaaggg ctcaggatgc tcatgccgaa gatgacgtta caagggaact tgtgcaggtt accaggccgt gatggcagag tcttcttggt cctaagggtg gggcttccc ggaacccctg</pre>	cctcatttct tactgttgca ctacaactga ggatggcagg atggcactcc agacaggaga gcaggaaagg tggagacccg	agctctcctg agagctagct catcccagga tggagagaag tgttggaatg agagcctgga cgtcactgtt	ttcctcttaa cctgctttgg catcctggcc ggagagaaag acaggagctg gaagccgctt cccaatgtac	tcctgcccag tccctccacc acaatggcac gagatgcagg aagggccacg atgtgtatcg ccattcgctt	120 180 240 300 360 420 480 540
407 409 410 412 414 416 418 420 422 424 426	<pre><400> SEQUENCE: 8 atgagacctg gccacttct accaaaaggg ctcaggatgc tcatgccgaa gatgacgtta caagggaact tgtgcaggtt accaggccgt gatggcagag tcttcttggt cctaagggtg gggcttcccc ggaacccctg ctcagcgttc agtgtggggc</pre>	cctcatttct tactgttgca ctacaactga ggatggcagg atggcactcc agacaggaga gcaggaaagg tggagacccg aacagaatca	agctctcctg agagctagct catcccagga tggagagaag tgttggaatg agagcctgga cgtcactgtt ttatgacggc	ttcctcttaa cctgctttgg catcctggcc ggagagaaag acaggagctg gaagccgctt cccaatgtac agcactggca	tcctgcccag tccctccacc acaatggcac gagatgcagg aagggccacg atgtgtatcg ccattcgctt agttctactg	120 180 240 300 360 420 480 540
407 409 410 412 414 416 418 420 422 424 426 428	<pre><400> SEQUENCE: 8 atgagacctg gccactttct accaaaaggg ctcaggatgc tcatgccgaa gatgacgtta caagggaact tgtgcaggtt accaggccgt gatggcagag tcttcttggt cctaagggtg gggcttcccc ggaacccctg ctcagcgttc agtgtggggc tactaagatc ttctacaacc</pre>	cctcatttct tactgttgca ctacaactga ggatggcagg atggcactcc agacaggaga gcaggaaagg tggagacccg aacagaatca tttactggct	agctctcctg agagctagct catcccagga tggagagaag tgttggaatg agagcctgga cgtcactgtt ttatgacggc ttcttcta	ttcctcttaa cctgctttgg catcctggcc ggagagaaag acaggagctg gaagccgctt cccaatgtac agcactggca ccatgatacc	tcctgcccag tccctccacc acaatggcac gagatgcagg aagggccacg atgtgtatcg ccattcgctt agttctactg aactgactgc	120 180 240 300 360 420 480 540 600
407 409 410 412 414 416 418 420 422 424 426 428 430	<pre><400> SEQUENCE: 8 atgagacctg gccactttct accaaaaggg ctcaggatgc tcatgccgaa gatgacgtta caagggaact tgtgcaggtt accaggccgt gatggcagag tcttcttggt cctaagggtg gggcttcccc ggaacccctg ctcagcgttc agtgtggggc tactaagatc ttctacaacc caacattccg ggactctaca</pre>	cctcatttct tactgttgca ctacaactga ggatggcagg atggcactcc agacaggaga gcaggaaagg tggagacccg aacagaatca tttactggct ccaggagaat	agctctcctg agagctagct catcccagga tggagagaag tgttggaatg agagcctgga cgtcactgtt ttatgacggc ttcttctcta catggaacag	ttcctcttaa cctgctttgg catcctggcc ggagagaaag acaggagctg gaagccgctt cccaatgtac agcactggca ccatgatacc tcgacacact	tcctgcccag tccctccacc acaatggcac gagatgcagg aagggccacg atgtgtatcg ccattcgctt agttctactg aactgactgc ttcagcttag	120 180 240 300 360 420 480 540
407 409 410 412 414 416 418 420 422 424 426 428 430 432	<pre><400> SEQUENCE: 8 atgagacctg gccacttct accaaaaggg ctcaggatgc tcatgccgaa gatgacgtta caagggaact tgtgcaggtt accaggccgt gatggcagag tcttcttggt cctaagggtg gggcttcccc ggaacccctg ctcagcgttc agtgtgggc tactaagatc ttctacaacc caacattccg ggactctaca aactacccat agcccataca</pre>	cctcatttct tactgttgca ctacaactga ggatggcagg atggcactcc agacaggaga gcaggaaagg tggagacccg aacagaatca tttactggct ccaggagaat gcttagtttg	agetetectg agagetaget cateceagga tggagagaag tgttggaatg agageetgga egteaetgtt ttatgaegge ttetteteta catggaacag agagteetga	ttcctcttaa cctgctttgg catcctggcc ggagagaaag acaggagctg gaagccgctt cccaatgtac agcactggca ccatgatacc tcgacacact gtattatcca	tcctgcccag tccctccacc acaatggcac gagatgcagg aagggccacg atgtgtatcg ccattcgctt agttctactg aactgactgc ttcagcttag cacgtgtact	120 180 240 300 360 420 480 540 600
407 409 410 412 414 416 418 420 422 424 426 430 432 434	<pre><400> SEQUENCE: 8 atgagacctg gccacttct accaaaaggg ctcaggatgc tcatgccgaa gatgacgtta caagggaact tgtgcaggtt accaggccgt gatggcagag tcttcttggt cctaagggtg gggcttcccc ggaacccctg ctcagcgttc agtgtggggc tactaagatc ttctacaacc caacattccg ggactctaca aactacccat agcccataca tttgagagat tgatttatt</pre>	cctcatttct tactgttgca ctacaactga ggatggcagg atggcactcc agacaggaga gcaggaaagg tggagacccg aacagaatca tttactggct ccaggagaat gcttagtttg ttataaaaaa	agctctcctg agagctagct catcccagga tggagagaag tgttggaatg agagcctgga cgtcactgtt ttatgacggc ttcttctcta catggaacag agagtcctga taatttgtgt	ttcctcttaa cctgctttgg catcctggcc ggagagaaag acaggagctg gaagccgctt cccaatgtac agcactggca ccatgatacc tcgacacact gtattatcca tcctagtcca	tcctgcccag tccctccacc acaatggcac gagatgcagg aagggccacg atgtgtatcg ccattcgctt agttctactg aactgactgc ttcagcttag cacgtgtact gaaaaaaagg	120 180 240 300 360 420 480 540 600 660 720 780 840
407 409 410 412 414 416 418 420 422 424 426 430 432 434 436	<pre><400> SEQUENCE: 8 atgagacctg gccacttct accaaaaggg ctcaggatgc tcatgccgaa gatgacgtta caagggaact tgtgcaggtt accaggccgt gatggcagag tcttcttggt cctaagggtg gggcttcccc ggaacccctg ctcagcgttc agtgtggggc tactaagatc ttctacaacc caacattccg ggactctaca actacccat agcccataca tttgagagat tgatttatt cacttgttca ttaaacgact</pre>	cctcatttct tactgttgca ctacaactga ggatggcagg atggcactcc agacaggaga gcaggaaagg tggagacccg aacagaatca tttactggct ccaggagaat gcttagtttg ttataaaaaa tcttacatgg	agctctcctg agagctagct catcccagga tggagagaag tgttggaatg agagcctgga cgtcactgtt ttatgacggc ttcttctcta catggaacag agagtcctga taatttgtgt tagcaataac	ttcctcttaa cctgctttgg catcctggcc ggagagaaag acaggagctg gaagccgctt cccaatgtac agcactggca ccatgatacc tcgacacact gtattatcca tcctagtcca agaatgaaaa	tcctgccag tccctcacc acaatggcac gagatgcagg aagggccacg atgtgtatcg ccattcgctt agttctactg aactgactgc ttcagcttag cacgtgtact gaaaaaaagg tcacatttgg	120 180 240 300 360 420 480 540 600 660 720 780
407 409 410 412 414 416 418 420 422 424 426 430 432 434 436 438	<pre><400> SEQUENCE: 8 atgagacctg gccactttct accaaaaggg ctcaggatgc tcatgccgaa gatgacgtta caagggaact tgtgcagggt accaggccgt gatggcagag tcttcttggt cctaagggtg gggcttcccc ggaacccctg ctcagcgttc agtgtggggc tactaagatc ttctacaacc caacattccg ggactctaca actacccat agcccataca tttgagagat tgatttatt cacttgttca ttaaacgact cactccctgg tctccacgac</pre>	cctcatttct tactgttgca ctacaactga ggatggcagg atggcactcc agacaggaga gcaggaaagg tggagacccg aacagaatca tttactggct ccaggagaat gcttagtttg ttataaaaaa tcttacatgg cgcatgactg	agctctcctg agagctagct catcccagga tggagagaag tgttggaatg agagcctgga cgtcactgtt ttatgacggc ttcttctcta catggaacag agagtcctga taatttgtgt tagcaataac tctggaagta	ttcctcttaa cctgctttgg catcctggcc ggagagaaag acaggagctg gaagccgctt cccaatgtac agcactggca ccatgatacc tcgacacact gtattatcca tcctagtcca agaatgaaaa gaccatgcta	tcctgccag tccctcacc acaatggcac gagatgcagg aagggccacg atgtgtatcg ccattcgctt agttctactg aactgactgc ttcagcttag cacgtgtact gaaaaaaagg tcacatttgg ttttctgct	120 180 240 300 360 420 480 540 600 660 720 780 840
407 409 410 412 414 416 418 420 422 424 426 428 430 432 434 436 438 440 442	<pre><400> SEQUENCE: 8 atgagacctg gccactttct accaaaaggg ctcaggatgc tcatgccgaa gatgacgtta caagggaact tgtgcagggt accaggccgt gatggcagag tcttcttggt cctaagggtg gggcttcccc ggaacccctg ctcagcgttc agtgtggggc tactaagatc ttctacaacc caacattccg ggactctaca aactacccat agcccataca tttgagagat tgatttatt cacttgttca ttaaacgact cactccctgg tctccacgac tatgggggct tcacaatatt cactgtacac aagcctgagtg</pre>	cctcatttct tactgttgca ctacaactga ggatggcagg atggcactcc agacaggaga gcaggaaagg tggagacccg aacagaatca tttactggct ccaggagaat gcttagtttg ttataaaaaa tcttacatgg cgcatgactg cacataaacc	agctctcctg agagctagct catcccagga tggagagaag tgttggaatg agagcctgga cgtcactgtt ttatgacggc ttcttctcta catggaacag agagtcctga taatttgtgt tagcaataac tctggaagta ctataatgta	ttcctcttaa cctgctttgg catcctggcc ggagagaaag acaggagctg gaagccgctt cccaatgtac agcactggca ccatgatacc tcgacacact gtattatcca tcctagtcca agaatgaaaa gaccatgcta aatatgaaat	tcctgccag tccctcacc acaatggcac gagatgcagg aagggccacg atgtgtatcg ccattcgctt agttctactg aactgactgc ttcagcttag cacgtgtact gaaaaaaagg tcacatttgg ttttctgct acagtgata	120 180 240 300 360 420 480 540 660 720 780 840 900 960 1020
407 409 410 412 414 416 418 420 422 424 426 438 430 432 434 436 438 440 442 444	<pre><400> SEQUENCE: 8 atgagacctg gccacttct accaaaaggg ctcaggatgc tcatgccgaa gatgacgtta caagggaact tgtgcaggtt accaggccgt gatggcagag tcttcttggt cctaagggtg gggcttcccc ggaacccctg ctcagcgttc agtgtggggc tactaagatc ttctacaacc caacattccg ggactctaca actacccat agcccataca tttgagagat tgatttatt cacttgttca ttaaacgact cactcctgg tccacagact tatgggggct tcacaatatt cactgtacac aaatattgtt ctcttctcac aggctgagtg taaattgg</pre>	cctcatttct tactgttgca ctacaactga ggatggcagg atggcactcc agacaggaga gcaggaaagg tggagacccg aacagaatca tttactggct ccaggagaat gcttagtttg ttataaaaaa tcttacatgg cgcatgactg cacataaacc	agctctcctg agagctagct catcccagga tggagagaag tgttggaatg agagcctgga cgtcactgtt ttatgacggc ttcttctcta catggaacag agagtcctga taatttgtgt tagcaataac tctggaagta ctataatgta	ttcctcttaa cctgctttgg catcctggcc ggagagaaag acaggagctg gaagccgctt cccaatgtac agcactggca ccatgatacc tcgacacact gtattatcca tcctagtcca agaatgaaaa gaccatgcta aatatgaaat	tcctgccag tccctcacc acaatggcac gagatgcagg aagggccacg atgtgtatcg ccattcgctt agttctactg aactgactgc ttcagcttag cacgtgtact gaaaaaaagg tcacatttgg ttttctgct acagtgata	120 180 240 300 360 420 480 540 660 720 780 840 900 960
407 409 410 412 414 416 418 420 422 424 426 438 430 432 434 436 438 440 442 444	<pre><400> SEQUENCE: 8 atgagacctg gccactttct accaaaaggg ctcaggatgc tcatgccgaa gatgacgtta caagggaact tgtgcagggt accaggccgt gatggcagag tcttcttggt cctaagggtg gggcttcccc ggaacccctg ctcagcgttc agtgtggggc tactaagatc ttctacaacc caacattccg ggactctaca aactacccat agcccataca tttgagagat tgatttatt cacttgttca ttaaacgact cactccctgg tctccacgac tatgggggct tcacaatatt cactgtacac aagcctgagtg</pre>	cctcatttct tactgttgca ctacaactga ggatggcagg atggcactcc agacaggaga gcaggaaagg tggagacccg aacagaatca tttactggct ccaggagaat gcttagtttg ttataaaaaa tcttacatgg cgcatgactg cacataaacc	agctctcctg agagctagct catcccagga tggagagaag tgttggaatg agagcctgga cgtcactgtt ttatgacggc ttcttctcta catggaacag agagtcctga taatttgtgt tagcaataac tctggaagta ctataatgta	ttcctcttaa cctgctttgg catcctggcc ggagagaaag acaggagctg gaagccgctt cccaatgtac agcactggca ccatgatacc tcgacacact gtattatcca tcctagtcca agaatgaaaa gaccatgcta aatatgaaat	tcctgccag tccctcacc acaatggcac gagatgcagg aagggccacg atgtgtatcg ccattcgctt agttctactg aactgactgc ttcagcttag cacgtgtact gaaaaaaagg tcacatttgg ttttctgct acagtgata	120 180 240 300 360 420 480 540 660 720 780 840 900 960 1020
407 409 410 412 414 416 418 420 422 424 426 438 430 432 434 436 438 440 442 444 447	<pre><400> SEQUENCE: 8 atgagacctg gccacttct accaaaaggg ctcaggatgc tcatgccgaa gatgacgtta caagggaact tgtgcaggtt accaggccgt gatggcagag tcttcttggt cctaagggtg gggcttcccc ggaacccctg ctcagcgttc agtgtggggc tactaagatc ttctacaacc caacattccg ggactctaca actacccat agcccataca tttgagagat tgatttatt cacttgttca ttaaacgact cactcctgg tccacagact tatgggggct tcacaatatt cactgtacac aaatattgtt ctcttctcac aggctgagtg taaattgg</pre>	cctcatttct tactgttgca ctacaactga ggatggcagg atggcactcc agacaggaga gcaggaaagg tggagacccg aacagaatca tttactggct ccaggagaat gcttagtttg ttataaaaaa tcttacatgg cgcatgactg cacataaacc	agctctcctg agagctagct catcccagga tggagagaag tgttggaatg agagcctgga cgtcactgtt ttatgacggc ttcttctcta catggaacag agagtcctga taatttgtgt tagcaataac tctggaagta ctataatgta	ttcctcttaa cctgctttgg catcctggcc ggagagaaag acaggagctg gaagccgctt cccaatgtac agcactggca ccatgatacc tcgacacact gtattatcca tcctagtcca agaatgaaaa gaccatgcta aatatgaaat	tcctgccag tccctcacc acaatggcac gagatgcagg aagggccacg atgtgtatcg ccattcgctt agttctactg aactgactgc ttcagcttag cacgtgtact gaaaaaaagg tcacatttgg ttttctgct acagtgata	120 180 240 300 360 420 480 540 660 720 780 840 900 960 1020
407 409 410 412 414 416 418 420 422 424 426 438 430 432 434 447 448 449	<pre><400> SEQUENCE: 8 atgagacctg gccactttct accaaaaggg ctcaggatgc tcatgccgaa gatgacgtta caagggaact tgtgcaggtt accaggccgt gatggcagag tcttcttggt cctaagggtg gggcttcccc ggaacccctg ctcagcgttc agtgtggggc tactaagatc ttctacaacc caacattccg ggactctaca actacccat agcccataca tttgagagat tgattttatt cacttgttca ttaaacgact cactcctgg tctccacgac tatgggggct tcacaatatt cactgtacac aaatattgtt ctcttctcac aggctgagtg taaattgg <210> SEQ ID NO: 9 <211> LENGTH: 306 <212> TYPE: DNA</pre>	cctcatttct tactgttgca ctacaactga ggatggcagg atggcactcc agacaggaga gcaggaaagg tggagacccg aacagaatca tttactggct ccaggagaat gcttagtttg ttataaaaaa tcttacatgg cgcatgactg cacataaacc tatgaattct	agctctcctg agagctagct catcccagga tggagagaag tgttggaatg agagcctgga cgtcactgtt ttatgacggc ttcttctcta catggaacag agagtcctga taatttgtgt tagcaataac tctggaagta ctataatgta	ttcctcttaa cctgctttgg catcctggcc ggagagaaag acaggagctg gaagccgctt cccaatgtac agcactggca ccatgatacc tcgacacact gtattatcca tcctagtcca agaatgaaaa gaccatgcta aatatgaaat	tcctgccag tccctcacc acaatggcac gagatgcagg aagggccacg atgtgtatcg ccattcgctt agttctactg aactgactgc ttcagcttag cacgtgtact gaaaaaaagg tcacatttgg ttttctgct acagtgata	120 180 240 300 360 420 480 540 660 720 780 840 900 960 1020
407 409 410 412 414 416 418 420 422 424 426 438 430 432 434 447 448 449	<pre><400> SEQUENCE: 8 atgagacctg gccactttct accaaaaggg ctcaggatgc tcatgccgaa gatgacgtta caagggaact tgtgcaggtt accaggccgt gatggcagag tcttcttggt cctaagggtg gggcttcccc ggaacccctg ctcagcgttc agtgtggggc tactaagatc ttctacaacc caacattccg ggactctaca actacccat agcccataca tttgagagat tgattttatt cacttgttca ttaaacgact cactcctgg tctccacgac tatgggggct tcacaatatt cactgtacac aaatattgtt ctcttctcac aggctgagtg taaattgg <210> SEQ ID NO: 9 <211> LENGTH: 306</pre>	cctcatttct tactgttgca ctacaactga ggatggcagg atggcactcc agacaggaga gcaggaaagg tggagacccg aacagaatca tttactggct ccaggagaat gcttagtttg ttataaaaaa tcttacatgg cgcatgactg cacataaacc tatgaattct	agctctcctg agagctagct catcccagga tggagagaag tgttggaatg agagcctgga cgtcactgtt ttatgacggc ttcttctcta catggaacag agagtcctga taatttgtgt tagcaataac tctggaagta ctataatgta	ttcctcttaa cctgctttgg catcctggcc ggagagaaag acaggagctg gaagccgctt cccaatgtac agcactggca ccatgatacc tcgacacact gtattatcca tcctagtcca agaatgaaaa gaccatgcta aatatgaaat	tcctgccag tccctcacc acaatggcac gagatgcagg aagggccacg atgtgtatcg ccattcgctt agttctactg aactgactgc ttcagcttag cacgtgtact gaaaaaaagg tcacatttgg ttttctgct acagtgata	120 180 240 300 360 420 480 540 660 720 780 840 900 960 1020

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/659,782B

DATE: 06/02/2005 TIME: 09:00:28

Input Set : A:\28238 sequence listing v2.txt
Output Set: N:\CRF4\06022005\J659782B.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:13; N Pos. 626 Seq#:34; Xaa Pos. 163 VERIFICATION SUMMARY

PATENT APPLICATION: US/10/659,782B

DATE: 06/02/2005 TIME: 09:00:28

Input Set : A:\28238 sequence listing v2.txt Output Set: N:\CRF4\06022005\J659782B.raw

L:10 M:270 C: Current Application Number differs, Replaced Current Application Number L:613 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:600

L:1711 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34 after pos.:160